

BESS-Polar ACC PMT Shells

T. Hams (GSFC)
for the Video Conference
on 01/16/03 at 6:00 p.m. (EST)

Items

- What is the overall length of the ACC (z-direction)? 1320 mm?
- Test has shown, that the signal distortion by enclosing the PMT into the shell assembly doesn't effect the PE resolution!
- Progress with assembly of the 75 ACC PMTs into their shells

REVISION

| SYM | ZONE | DESCRIPTION | DATE | APPROVAL |
|-----|------|-------------|------|----------|
| | | | | |

1 **2** **3** **4** **5**

5 1 CONNECTOR CAP

4 1 TUBE BASE

3 1 TUBE COMPRESSION NUT

2 1 TUBE CUSHION RING

1 1 TUBE CASE

| ITEM NO. | REQD | REGR | PART NO. | DESCRIPTION | MATERIAL | MATERIAL SPEC & NO. |
|----------|------|------|----------|----------------------|----------|---------------------|
| 5 | 1 | | | CONNECTOR CAP | | |
| 4 | 1 | | | TUBE BASE | | |
| 3 | 1 | | | TUBE COMPRESSION NUT | | |
| 2 | 1 | | | TUBE CUSHION RING | | |
| 1 | 1 | | | TUBE CASE | | |

LIST OF MATERIAL

UNLESS OTHERWISE SPECIFIED-DIMENSIONS AND INCHES DIM TOLERANCES:
 .XXX L,XXX
 ±0.01 ±0.001 [.10] ±0.5°
 REMOVE ALL BURRS AND SHARP EDGES R BIG OR CHAMFER MAX.

☐ FLIGHT HARDWARE
☒ HARDNESS TEST NOT REQUIRED ☐ NON FLIGHT
☐ TEST HARDNESS PER ASTM E-18, LOCATION OPTIONAL
☐ TEST HARDNESS PER ASTM E-18 WHERE INDICATED ON FIELD OF DRAWING THIS
☐ NO NON-DESTRUCTIVE EXAMINATION (NDE) REQ'D
☐ NDE REQUIRED PER S-513-609 CODE

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION Goddard Space Flight Center GREENBELT, MARYLAND

| NAME | INIT | DATE |
|----------|------------|------|
| DESIGNER | F.SS | |
| DRAWN | SDM | |
| CHECKED | HAMS/F.S.S | |
| APPROVED | T. HAMS | |
| APPROVED | | |
| APPROVED | | |
| APPROVED | | |

DRAWING INTERPRETED PER GSFC-X673-64-1

TITLE
 BESS
 BALLOON PROJECT
 PMT HOLDER

GC **661** **SCALE 1/1** **VT** **SH** **2 of 1**

FILE NAME: PMT-HOLDER-ASSEMBLY

MODEL NAME: BESS-PMT-HOUSING

PLOT DATE:

THIS DRAWING WAS PRODUCED USING
 SOFTWARE: PDS-ENGINEER, VERSION 4.7.0

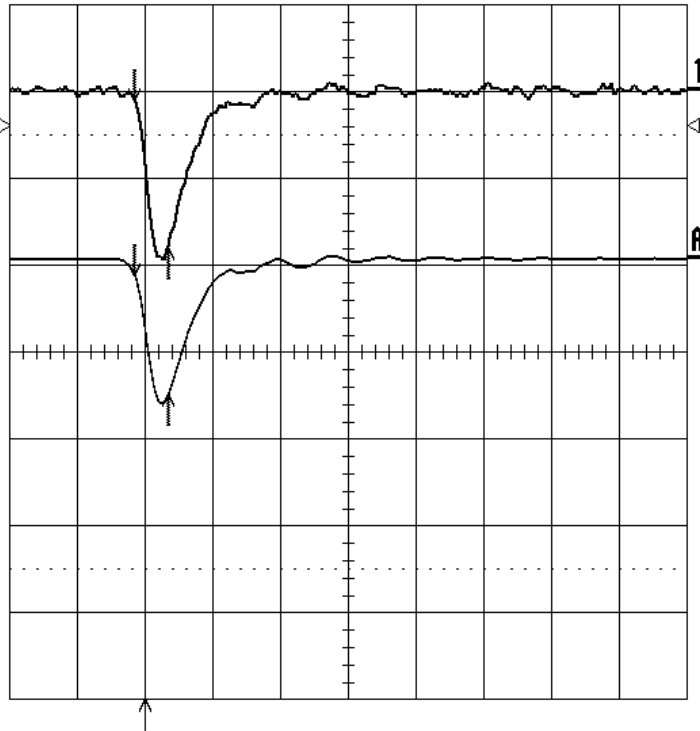
NEXT ASSY **BESS** **USED ON**

Signal distortion in shell assembly

27-Nov-02
15:51:31

Average(1)
10 ns
-2.268 mV
-15.775 mV
500 swps

10 ns
-1.42 mV
-18.29 mV



10 ns
1 10 mV 50Ω
Δt 4.90 ns $\frac{1}{\Delta t}$ 204.1 MHz

2 10 mV 50Ω 1 DC -4.2 mV

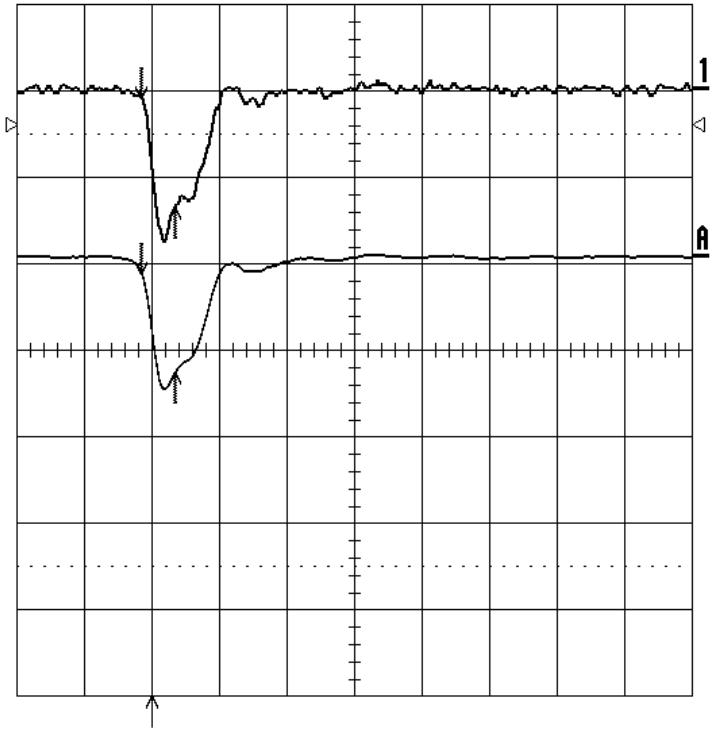


Connector Cap OFF

27-Nov-02
16:02:59

Average(1)
10 ns
-2.213 mV
-13.431 mV
500 swps

10 ns
-1.20 mV
-13.84 mV



10 ns
1 10 mV 50Ω
Δt 4.90 ns $\frac{1}{\Delta t}$ 204.1 MHz

2 10 mV 50Ω 1 DC -4.2 mV



Connector Cap ON

PE resolution

Test setup:

- PMT and LED at fixed distance
- pulsed LED voltage variable
- Take 10000 events with and without connector cap touching rest of the shell

Result: PMT resolution is not altered!

Status of ACC counter design

